

CLAIMS

1. A DNA fragment, which exists in a non-translation region located upstream of the 5'-terminal side of a gene selected from the group consisting of genes of *Saccharomyces cerevisiae* described in the table indicated below, and has a cold-inducible promoter function.

Table

No.	Systematic gene name								
1	YAL014C	53	YDR184C	105	YGR008C	157	YKL224C	209	YNR071C
2	YAL015C	54	YDR219C	106	YGR043C	158	YKR049C	210	YNR075W
3	YAL025C	55	YDR253C	107	YGR053C	159	YKR075C	211	YNR076W
4	YAL034C	56	YDR256C	108	YGR088W	160	YKR077W	212	YOL002C
5	YBL048W	57	YDR262W	109	YGR102C	161	YKR100C	213	YOL016C
6	YBL049W	58	YDR306C	110	YGR154C	162	YLL055W	214	YOL084W
7	YBL054W	59	YDR336W	111	YGR197C	163	YLL056C	215	YOL101C
8	YBL056W	60	YDR346C	112	YGR222W	164	YLR009W	216	YOL108C
9	YBL065W	61	YDR387C	113	YGR223C	165	YLR145W	217	YOL116W
10	YBL078C	62	YDR398W	114	YGR251W	166	YLR149C	218	YOL124C
11	YBR016W	63	YDR435C	115	YGR256W	167	YLR164W	219	YOL127W
12	YBR018C	64	YDR453C	116	YGR262C	168	YLR251W	220	YOL132W
13	YBR024W	65	YDR471W	117	YGR286C	169	YLR252W	221	YOL153C
14	YBR034C	66	YDR492W	118	YGR294W	170	YLR266C	222	YOL154W
15	YBR045C	67	YDR496C	119	YHL016C	171	YLR311C	223	YOL161C
16	YBR047W	68	YDR504C	120	YHL021C	172	YLR312C	224	YOL162W
17	YBR050C	69	YDR516C	121	YHL036W	173	YLR327C	225	YOL163W
18	YBR072W	70	YDR530C	122	YHL046C	174	YLR413W	226	YOL165C
19	YBR116C	71	YDR542W	123	YHR066W	175	YLR421C	227	YOR019W
20	YBR117C	72	YEL011W	124	YHR087W	176	YML004C	228	YOR031W
21	YBR126C	73	YEL039C	125	YHR138C	177	YML128C	229	YOR043W
22	YBR148W	74	YEL072W	126	YHR139C	178	YML131W	230	YOR095C
23	YBR199W	75	YER020W	127	YHR141C	179	YMR030W	231	YOR292C
24	YBR223C	76	YER042W	128	YHR146W	180	YMR090W	232	YOR298W
25	YBR296C	77	YER053C	129	YIL036W	181	YMR100W	233	YOR391C
26	YBR297W	78	YER056C	130	YIL045W	182	YMR105C	234	YOR394W
27	YBR298C	79	YER065C	131	YIL069C	183	YMR107W	235	YPL004C
28	YBR301W	80	YER066W	132	YIL077C	184	YMR139W	236	YPL014W
29	YCL051W	81	YER067W	133	YIL107C	185	YMR246W	237	YPL015C
30	YCR005C	82	YER078C	134	YIL136W	186	YMR255W	238	YPL043W
31	YCR072C	83	YER079W	135	YIL143C	187	YMR258C	239	YPL054W
32	YCR107W	84	YER117W	136	YIL153W	188	YMR262W	240	YPL093W
33	YDL022W	85	YER150W	137	YJL132W	189	YMR271C	241	YPL107W
34	YDL024C	86	YFL014W	138	YJL155C	190	YMR316W	242	YPL122C

35	YDL031W	87	YFL030W	139	YJL223C	191	YMR320W	243	YPL149W
36	YDL037C	88	YFL055W	140	YJR085C	192	YMR322C	244	YPL171C
37	YDL039C	89	YFL056C	141	YJR155W	193	YNL011C	245	YPL186C
38	YDL059C	90	YFL057C	142	YKL026C	194	YNL024C	246	YPL223C
39	YDL070W	91	YFR014C	143	YKL070W	195	YNL112W	247	YPL224C
40	YDL075W	92	YFR015C	144	YKL071W	196	YNL117W	248	YPL245W
41	YDL113C	93	YFR017C	145	YKL078W	197	YNL124W	249	YPL250C
42	YDL115C	94	YFR053C	146	YKL087C	198	YNL141W	250	YPL280W
43	YDL125C	95	YGL029W	147	YKL089W	199	YNL142W	251	YPL281C
44	YDL169C	96	YGL033W	148	YKL090W	200	YNL178W	252	YPL282C
45	YDL204W	97	YGL045W	149	YKL091C	201	YNL194C	253	YPR045C
46	YDL243C	98	YGL075C	150	YKL094W	202	YNL195C	254	YPR061C
47	YDR003W	99	YGL122C	151	YKL103C	203	YNL213C	255	YPR086W
48	YDR018C	100	YGL135W	152	YKL125W	204	YNL244C	256	YPR121W
49	YDR056C	101	YGL179C	153	YKL150W	205	YNL331C	257	YPR143W
50	YDR070C	102	YGL184C	154	YKL151C	206	YNR039C	258	YPR160W
51	YDR111C	103	YGL255W	155	YKL162C	207	YNR051C	259	YPR200C
52	YDR174W	104	YGL261C	156	YKL187C	208	YNR053C		

2. A DNA fragment having a cold-inducible promoter function, which comprises DNA described in the following (a) or (b):

(a) DNA comprising a deletion, substitution or addition of one or more nucleotides with respect to the DNA fragment according to claim 1;

(b) DNA hybridizing with a DNA fragment consisting of a nucleotide sequence complementary to the DNA fragment according to claim 1 under stringent conditions.

3. A DNA fragment, which comprises a cis sequence of the following (a) and/or (b), and has a cold-inducible promoter function:

(a) DNA sequence A: GCTCATCG;

(b) DNA sequence B: GAGATGAG.

4. A DNA fragment having a cold-inducible promoter function, which comprises DNA described in the following (a) or (b):

(a) DNA comprising a deletion, substitution or addition of one or more nucleotides with respect to the DNA fragment according to claim 3;

(b) DNA hybridizing with a DNA fragment consisting of a nucleotide sequence complementary to the DNA fragment according to claim 3 under stringent conditions.

5. An expression vector comprising the DNA fragment according to any one of claims 1 to 4.
6. The expression vector according to claim 5, characterized by comprising a foreign gene or foreign DNA fragment downstream of said DNA fragment.
7. A transformant, which is transformed with the expression vector according to claim 5 or 6.
8. The transformant according to claim 7, wherein a host is yeast.
9. A method for producing a protein, characterized by comprising decreasing a culture temperature and culturing the transformant according to claim 7 or 8 at the decreased temperature.
10. The method for producing a protein according to claim 9, wherein the culture temperature is 10°C or lower.
11. A method for regulating RNA production, characterized by comprising decreasing a culture temperature and culturing the transformant according to claim 7 or 8 at the decreased temperature.
12. The method for regulating RNA production according to claim 11, wherein the culture temperature is 10°C or lower.